

# DataNet Federation Consortium

## Data Driven Science

- Implement national data grid
  - Federate existing discipline-specific data management systems to enable national research collaborations
- Enable collaborative research on shared data collections
  - Manage collection life cycle as the user community broadens
- Integrate “live” research data into education initiatives
  - Enable student research participation through control policies

Project

Shared Collection

Processing Pipeline

Digital Library

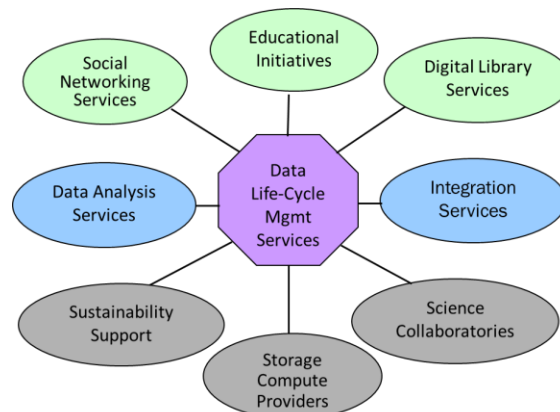
Reference Collection

Federation

*Collection Life Cycle*

### Cyber-infrastructure Partners:

Univ. of North Carolina, Chapel Hill  
Univ. of California, San Diego  
Arizona State University  
Drexel University  
Duke University  
University of Arizona  
University of South Carolina



### Science and Engineering Initiatives:

Ocean Observatories Initiative  
the iPlant Collaborative  
CUAHSI  
CIBER-U  
Odum Social Science Institute  
Temporal Dynamics of Learning Center

# Collaboration Environment

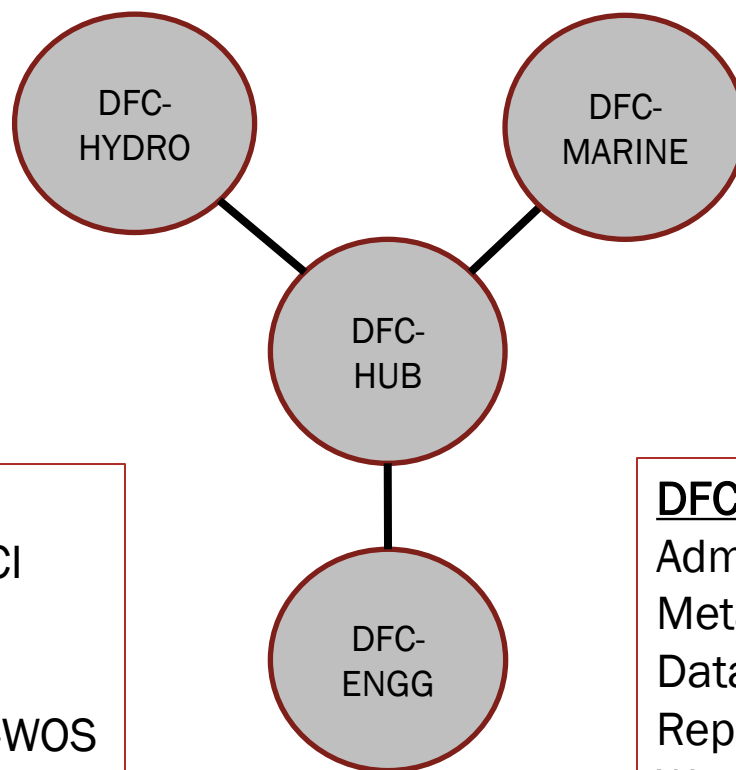
- Manage data and workflows for reproducible research
  - Enforce domain policies
  - Capture workflow process provenance
  - Interact with remote data resources
  - Capture copies of all research data and metadata
  - Orchestrate internal and external services
- Enable project to manage results
  - Create / share / publish / archive / repurpose
  - Reference collections

# DFC Grid Phase-1

## (current federation)

### DFC-Hydrology

Administration: RENCi  
 Metadata: RENCi  
 Data Resc: USC  
 Data Resc: NCDC  
 Replica Resc: RENCi  
 Workflow Resc: ALL  
 LifeCycle Engine: RENCi  
 Message Hub: RENCi



### DFC-Marine

Administration: UCSD  
 Metadata: UCSD  
 Data Resc: UCSD  
 Replica Resc: RENCi  
 Workflow Resc: ALL  
 LifeCycle Engine: UCSD  
 Message Hub: UCSD

### DFC-Federation Hub

Administration: RENCi  
 Metadata: RENCi  
 Data Resc: RENCi  
 Replica Resc: RENCi-WOS  
 Workflow Resc: ALL  
 LifeCycle Engine: RENCi  
 Message Hub: RENCi

### DFC-Engineering

Administration: Drexel  
 Metadata: Drexel  
 Data Resc: Drexel  
 Replica Resc: RENCi  
 Workflow Resc: ALL  
 LifeCycle Engine: RENCi  
 Message Hub: Drexel

# Federation of Federations

